

What is claimed is:

1. A welding shield gas for non-consumable electrode arc welding of a welding material comprising austenitic stainless steel having a Ca concentration not less than 1 wt.ppm, the welding shield gas comprising:
an inert gas and nitrogen gas, the concentration of the nitrogen gas being 1 to 95 vol%.
2. A welding shield gas for non-consumable electrode arc welding of a welding material comprising austenitic stainless steel having a Ca concentration not less than 1 wt.ppm, the welding shield gas comprising:
an inert gas and helium gas, the concentration of the helium gas being 35 to 95 vol%.
3. A welding shield gas for non-consumable electrode arc welding of a welding material comprising austenitic stainless steel having a Ca concentration not less than 1 wt.ppm, the welding shield gas comprising:
an inert gas, nitrogen gas, and helium gas, the concentration of the nitrogen gas being not less than 1 vol% and less than 65 vol%, and the concentration of the helium gas being 35 to 95 vol%.
4. A welding shield gas according to any of claims 1 to 3, the welded material comprising:
at least one of Al at a concentration not less than 10 wt.ppm, and Si at a concentration not less than 0.3 wt.ppm.

5. A welding shield gas according to any of claims 1 to 3, wherein the inert gas is argon gas.
- 5 6. A welding method for non-consumable electrode arc welding of welded material comprising austenitic stainless steel, the welding method comprising:
a step of using the welding shield gas according to any of claims 1 to 3.
7. A welding method according to claim 6, wherein the welding method is applied
10 to fixed tube welding.